

CLAIMS

What is claimed is:

- 5 1. Isolated nucleic acid molecules, comprising a heavy chain and a light chain nucleic acid sequence that encodes a heavy chain and a light chain amino acid sequence, wherein said heavy chain and light chain amino acid sequences comprise a monoclonal rabies virus neutralizing antibody that specifically binds to a rabies virus protein.
- 10 2. The isolated nucleic acid molecules of claim 1, comprising a cDNA sequence of a heavy chain (**SEQ. ID. NO: 1**) and a cDNA sequence of a light chain (**SEQ. ID. NO: 2**).
- 15 3. An isolated human monoclonal rabies virus neutralizing antibody, wherein said isolated human monoclonal rabies virus neutralizing antibody is derived from cDNA clones encoding the antibody heavy and light chains expressed in heterologous expression systems and purified away from deleterious contaminants.
- 20 4. The isolated human monoclonal rabies virus neutralizing antibody of claim 3, comprising a heavy chain and a light chain, wherein said heavy chain comprises an amino acid sequence of **SEQ. ID. NO:3** and said light chain comprises an amino acid sequence of **SEQ. ID. NO:4**.
- 25 5. A fused gene encoding a chimeric immunoglobulin light chain, comprising:
- 30 a) a first DNA sequence encoding an immunoglobulin light chain variable region of a monoclonal rabies virus neutralizing antibody produced by a heterohybridoma cell line; and
- 35 b) a second DNA sequence encoding a human light chain constant region.

6. An expression vector, comprising a fused gene of claim 5.

7. A host cell, comprising an expression vector of claim 6.

8. A fused gene encoding a chimeric immunoglobulin heavy chain, comprising:

a) a first DNA sequence encoding an immunoglobulin heavy chain variable region of a monoclonal rabies virus neutralizing antibody produced by a heterhybridoma cell line; and

b) a second DNA sequence encoding a human heavy chain constant region.

9. An expression vector, comprising a fused gene of claim 8.

10. A host cell, comprising an expression vector of claim 9.

11. An isolated monoclonal rabies virus neutralizing antibody, comprising a fused gene encoding a chimeric immunoglobulin product of claim 6 and a fused gene encoding a chimeric immunoglobulin product of claim 9.

12. A method of treating an individual exposed to a rabies virus, comprising:

a) administering to said individual a therapeutically effective amount of a human monoclonal rabies virus neutralizing antibody of claim 3; and

b) preventing a spread of said rabies virus to a central nervous system.